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David E Heiser				
E I Du Pont De Nemours and Company				
Legal Patent Records Center				
4417 Lancaster Pike				
Wilmington, DE 19805				
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/572,628

Applicant(s)

AMOS ET AL.

Examiner

M. Louisa Lao

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 May 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. The **rejection of Claims 1-7 and 15-16 is maintained** under 35 U.S.C. 102(b) as being anticipated by Dipling et al. (DE2358254, DE`254)

3. The instant claims are drawn to a chromium-containing catalyst composition comprising zinc chromite and crystalline α -chromium oxide, wherein the ZnCr_2O_4 contains between about 10 atom percent and 67 atom percent of the chromium in the composition and at least about 70 atom percent of the zinc in the composition, and wherein at least about 90 atom percent of the chromium present as chromium oxide in the composition is present as ZnCr_2O_4 or crystalline α -chromium oxide, and a method for preparing a chromium-containing catalyst composition comprising the steps of co-precipitation effectuated by the co-mixing of ammonium hydroxide, an aqueous zinc salt solution and a soluble trivalent chromium salt; further collection of the solid precipitate, drying said precipitate and addition of zinc chromite during calcination.

4. DE`254 in the fifth paragraph of the specification under the heading Description disclose the catalyst composition of zinc chromite with chromium oxide, with weight percentages; as well as the procedure for making zinc chromite with chromium oxide, where the latter is in the form of ammonium dichromate, then an annealing step and the addition of the zinc chromite during

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said annealing step. (Machine-translated copy was provided; full translation faxed to Applicants and will be scanned into PAIR).

5. As to the recitation of atom percent chromium and atom percent zinc, the examiner takes the position that these numerical values are inherent in the materials as recited. It is well settled that a prior art reference may anticipate when the claim limitations not expressly found in that reference are nonetheless inherent in it. "Under the principle of inherency, if the prior art necessarily functions in accordance with, or includes, the claimed limitations, it anticipates." *MEHL/Biophile Int'l Corp V. Miltraum*, 192 F.3d 1362, 1365, 52 USPQ2d 1303, 1305.

6. As to claims 6-7, these are product-by-process claims. "The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as a product of the prior art, the claim is unpatentable even though the prior art product was made by a different process." *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985). MPEP§2113 [R-1].

7. It is clear that DE'254 anticipates the instant claims, as recited.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

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1. Determining the scope and contents of the prior art.
 2. Ascertaining the differences between the prior art and the claims at issue.
 3. Resolving the level of ordinary skill in the pertinent art.
 4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
10. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).
11. **The rejection of Claims 1-7 is maintained** under 35 U.S.C. 103(a) as being unpatentable over Dipling et al. (DE2358254, DE'254), further in view of Scott et al. (US2001/0011061, US'061).
12. The instant claims are drawn to a chromium-containing catalyst composition comprising zinc chromite and crystalline α -chromium oxide, prepared by the treatment of the composition with a fluorinating agent.
13. DE'254 in the fifth paragraph of the specification under the heading Description discloses the catalyst composition of zinc chromite with chromium oxide. (Machine-translated copy was provided; full translation will be scanned into PAIR).
14. Although, DE'254 does not explicitly disclose the use of a fluorinating agent, US'061 in pages 3-4 Examples 1-2 sections [0031]-[0042] teaches the use of fluorinating agents, like hydrogen fluoride and chloro-2,2,2-trifluorethane.

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15. It would have been obvious to a person skilled in the art at the time the invention was made to use the fluorinating agent taught in US'061 since the method therein involved a zinc-chromium catalyst composition, which is similar to the zinc-chromium catalyst composition of DE'254.

16. One having ordinary skill in the art would have been motivated to use the fluorinating agent taught in US'061 for the catalyst composition in DE'254, since the fluorinating agent was found to enhance the crystallinity of the catalyst composition rendering it more potent as a catalyst.

17. It is *prima facie* obvious to combine the teachings of the prior art, which negatives the patentability of the instant claims, as recited.

Claim Rejections - 35 USC § 103

18. The **rejection of Claims 8-14 is maintained** under 35 U.S.C. 103(a) as being unpatentable over Scott et al. (GB2275924, GB'274).

19. The instant claims are drawn to a process for changing the fluoride distribution in a halogenated hydrocarbon, or incorporating fluorine in a saturated or unsaturated hydrocarbon, in the presence of chromium-containing catalyst compositions by reacting said compound with hydrogen fluoride in the vapor phase.

20. GB'274 in page 8 claims 1-5, discloses a process for the production of a fluoro-aromatic compound, which comprises contacting a chloro-aromatic compound with hydrogen fluoride in the vapor phase in the presence of a chromium-containing catalyst.

21. GB'274 does not explicitly teach changing the fluorine distribution of the compound.

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22. However, it would have been obvious to a person of ordinary skill in the art at the time of the invention was made to use the fluorination process with the parameters as disclosed therein by GB'274 since this method is a process for the production of a fluoro-aromatic compound, which is essentially a fluorination technique akin to the instant claims.

23. One having ordinary skill in the art would have been motivated to do this since the fluorination processes are equivalent and the artisan would have reached a reasonable expectation of success in utilizing the teachings of GB'274.

24. It is *prima facie* obvious that the prior art renders the instant claims unpatentable.

Response to Arguments

25. Applicant's arguments filed 5/29/07 have been fully considered but they are not persuasive. Applicants' initial statement that mole ratio (atom percent) of a single compound, like zinc chromite is inherent, in contrast to multiple components. Applicants presented a lengthy and laborious explanation of mole ratios and atom percentages of Zn content and Cr content in the pages 3-5 of the REMARKS. Applicants have interjected the addition of ZnO, as well as cadmium oxide, which renders the calculations presented circuitous and confusing. Applicants have failed to provide the sharp contrast between the instant catalyst composition and the catalyst composition of the cited prior art, DE'254. The conversion of "10 atom percent and 67 atom percent of the chromium in the instant composition and at least about 70 atom percent of zinc in the instant composition" would be straightforward to a zinc oxide to chromium (II) oxide ratio. Then the said instant ratio can be compared to the ratio in the cited prior art reference. Further, Applicants on page 5 2nd ¶ contend that the instant ratio that is lowest chromium to zinc ratio,

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while contrasting this with the highest chromium to zinc ratio of the cited prior art reference with further additions of chromium oxide is vague and inconsistent.

26. Applicants reiterated that US`061 teaches an improved zinc-promoted chromia fluorination catalyst. Applicant then again makes a confusing calculation alluding to a composition after the addition of chromium oxide. The combination of the cited prior art references addresses the instant composition of the catalysts, and not the "transformation of alcohols".

27. Applicants argue for the process claims 8-14, that the process uses the instant catalyst composition, which is not suggested or taught by the combination of the teachings of the cited prior art references. However, as discussed *supra*, albeit Applicants showed extensive and meandering calculations, these efforts have failed to provide a sharp contrast between the instant compositions and cited prior art references' compositions. Therefore, the processes using said instant compositions are obvious over the combination of the teachings of the cited prior art references.

28. There are no allowable claims.

29. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

30. The amendment to the specification is acknowledged.

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Correspondence

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Louisa Lao whose telephone number is 571-272-9930. The examiner can normally be reached on Mondays to Thursdays from 8:00am to 8:00pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Yvonne Eyler can be reached on 571-272-0871. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

`mll 07162007

MLouisa Lao

Examiner

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for

YVONNE EYLER

SUPERVISORY PATENT EXAMINER

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